

### Harriet the Hostess

Harriet has houseguests from Holland visiting, and she thinks it would be a nice gesture if she placed some tulips in their room as a welcome gift. She works all day, and the nearest florist is not on her normal route to and from work. She has Internet access at work, and has shopped on-line before. She sees a banner ad for Proflowers on a search engine, and decides to give it a try. She notices that not only does Proflowers offer significantly lower prices, but that the flowers are especially fresh since they come directly from the growers. Since her guests will be visiting for a week, she doesn't want the flowers going bad before they leave. She already knows what she wants, so she decides that instead of picking an occasion, she instead picks a flower type and begins browsing. She doesn't need a card, and she only needs to have the flowers delivered to herself.

### Tom Techie

Tom is typical of many 20-30 year-old (or so) folks working in a fast paced high-tech industry, such as a software development company. He has more than enough income to meet his needs and many of his wants. What he doesn't necessarily have is a lot of time. Nor does he think about these things during normal business hours. These factors make the Internet a perfect place to shop for Tom. Among other things, he buys, software, mountain bike parts, and occasionally flowers from on-line services.

Tom knows a lot about software, a fair amount about bikes, but very little about flowers. He typically buys the standard roses for all occasions. He doesn't usually remember the occasions very well, either. Tom uses a scheduling program to alert him of upcoming occasions, but doesn't have the time to go and buy something. So he is left with the option of shopping the Internet at the last minute. He typically chooses flowers because he's not sure what else to give. And hey, they deliver, too. The occasions seem typical, too, Mother's day, Valentine's day, "Oops, I'm sorry" day, to name a few.

## Randy Romantic

Randy knows how to treat his significant other(s). Flowers are perfect for any occasion.

Randy knows flowers a little better than most and prefers to augment the flowers with a special gift, such as chocolate or a basket.

5 Randy used to use the Yellow Pages but was never quite sure what he was sending or what he was getting for his money. Moreover, it was sometimes difficult to get in touch with a florist. The Internet opened up a whole new world to him.

10 He likes to send flowers on general occasions, as well as special those occasions for his friends and lover(s). He uses his home computer to order flowers, which means it's probably done after normal business hours. Randy doesn't spend a lot of time on his computer, but is fairly familiar with the Internet.

He really likes the ability to preview the arrangements to ensure that they are the right kinds of flowers for the occasion. It has taken him a long time to learn which flowers are better for which occasions, and is interested in learning more.

15 Randy like to have the flowers delivered in a special way, if possible. The standard drop off at the doorstep is fine in a pinch. But those special occasions require special delivery. It's not easy finding someone who will deliver on Sundays.

20 The ability to include a gift of chocolates or special basket appeals to Randy and he is always looking for ways to make the flowers a little more special. He also likes to choose a nice card and add his own notes to it.

Randy may need to send flowers to more than one person on some occasions, but he typically sends flowers to one person at a time.

See Fig. 4.

25 **user/task matrix**

**VALUE**

**MEANING**

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Unlikely

+ Possible  
++ Highly Likely

Task / User	Male CEO	Executive Assistant	Male Soldier	Female Office Worker	Female Homemaker
Shop by Occasion	++	++	++	+	+
Shop by Flower Type	-	+	-	+	++
Purchase as Gift	++	++	++	+	+
Purchase for self	-	-	-	+	+
Purchase Multiple	+	++	-	-	-
Deliver as Gift	++	++	++	+	+
Deliver to Self	-	-	-	+	+
Quality Important	++	+	+	++	++
Variety Important	+	+	+	+	++

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## METRICS AND OBJECTIVES

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### usability metrics

This site must be easy to use, with no requirement for learning. Since the usage model for this site varies from regular to intermittent use, it should be simple to navigate and provide a simple model of interaction. Advanced features such as a reminder service and gift registry should be simple to use and should not interfere with the typical browsing and ordering process. Discovery of advanced features should be introduced by non-intrusive suggestions based on usage patterns, or through navigation of optional portions of the site. The site should accommodate both inexperienced, non-technical users, yet be well designed technically to appeal to more advanced users.

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### product objectives

The objective of this site is to provide users with a simple method for selecting, purchasing and shipping flowers and arrangements at a competitive price. Value can be added to the process by inviting users to specify the occasion for which the flowers are being purchased. By doing so, users will be provided with suggestions for appropriate arrangement. By relying on the knowledge of the service provider (Proflowers.com), users will feel more comfortable that the purchase is appropriate for the occasion. This coupled with information about the quality, savings and value-added features such as a Reminder Service and Monthly Contests, Proflowers.com provides creates a positive image for the site that will induce book-marking and return visits (Proflowers may want to consider a "Bookmark this page" link).

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## **task priorities**

The primary tasks this site should accommodate include selecting an occasion, selecting an arrangement, specifying a recipient for delivery, and payment. Other tasks that can be addressed are browsing by flower type, gift registry, and important date reminders.

5. Additionally, marketing items such as contests and company information should be included.

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## INTERFACE DESIGN

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### conventions

Certain conventions are utilized throughout this design. These conventions have been selected to create an internal standard for behaviors which are common yet not standardized from site to site. These behaviors assume that JavaScript will be used in conjunction with HTML in the implementation of this design. When certain JavaScript codes are not 100% compatible, they do not prevent the use of the site, but rather enhance the experience for users with compatible browsers.

### JavaScript

The following syntax refers to Event Handlers which respond to certain actions:

OnMouseOver() function – this function allows a behavior or state change to occur when the cursor is placed over an image object. The typical use of this function is to change a button from deselected to a selected state. This will be referred to in the document as an “OnMouseOver behavior”.

OnChange() function – reacts to drop down list selection by activating that selection for purposes of navigation without requiring an explicit submit action.

OnLoad() function – this function allows an action to occur when a page is loaded.

Focus() function –this function places the focus in the specified field, such as the first text box of an on-line form. Often, this code is used in conjunction with the OnLoad event handler.

Other uses – JavaScript is an object-oriented language, allowing multiple functions to be carried out with a single action. Utilization of this capability can improve and enhance the interactivity and responsiveness of a web site. JavaScript can also perform data checking operations.

## Frames

In order to maintain the visibility of key elements to the site, namely the company logo, mission statement and site navigation, this design intends to use frames. All Mozilla/2.0 browsers support frames. The frameset structure of the site is diagrammed below.

In order to maintain the consistency of the site's navigation, the frames have been designed using the "frames-within-frames" method. This allows two frames to be updated simultaneously, maintaining a consistent level of navigation despite the use of the browser's "Back" button.

## Navigation

Hyperlink: blue underlined text that causes a new page to load <A>

Hyperlink Button: graphic that serves as a hyperlink <A>

Button: standard 3D button generated by <INPUT TYPE=Button> tag.

## Data Checking

In some cases, such as the recipient and billing information pages, it is necessary to verify that the user has input viable data, and that certain data elements match one another (for example the city and zip). If the system detects a data error, it returns the user to the original form and places RED asterisks or some other highly salient marker next to the items that were input incorrectly. The "Continue >>" button is replaced by an "OK" button.

If the user ever performs a destructive action, such as "Cancel Order", it must be confirmed by an explicit action on the part of the user.

## Security

SSL Security should be activated whenever the user is performing an action or viewing a screen in which personal information may be edited. Credit Card Account information cannot be accessed from this site, only changed if an appropriate order number is provided.

## Cookies

User interviews revealed a variety of responses to the use of cookies, from unfamiliar to always refusing. Cookies can provide a significant benefit, and be the source of a major annoyance as well. It is our inclination to avoid the use of cookies due to a general lack of understanding of this technology. If cookies are utilized, the user should be able to bypass them and still use the site fully with cookies refused or disabled.



## Load Speed

Several programming techniques can be employed to facilitate faster loading, which is highly recommended. To make the overall page load faster and to allow the text content to become visible before the images have completed loading, all HTML tags regarding tables and images should include HEIGHT & WIDTH values. Doing so allows the browser to predict the layout of the page, and thus can display information incrementally rather than being forced to load the whole page first.

**Design Note:** Frames (Fig. 8) allow for the constant visibility of two important page elements; the Navigation portion is always visible despite scrolling, and the Header is also always visible. These areas can be utilized to present information that will always be visible to the customer.

The Home Page (Fig. 10) is the first screen that visitors see when visiting the Proflowers.com site. It displays arrangements for the nearest upcoming flower occasion. It also displays tips for using the navigation. Also on the home page are links to more arrangements for the upcoming holiday and a direct link to long stem roses, which are a popular item.

Note the use of the (u) symbol to draw attention to important elements and information on the screen. This convention is used throughout the design, and was very effective in bringing important information to the user's attention. As a matter of fact, users often missed important information that wasn't preceded by this symbol. This simple element is very effective in focusing and controlling attention.

## Behaviors

### Arrangement Image / Click for Details

Hyperlink: clicking on the arrangement image takes the user to an enlarged detail view of the arrangement.

### Buy this Arrangement

Hyperlink Button: clicking on Buy loads the Recipient Page of the order process.

### Flower Name Hyperlink

Text Hyperlink: the names of flowers are hyperlinked to the appropriate section of the flower guide. Clicking on the flower name loads the flower guide, scrolled to the portion of the screen describing the flower.

## Navigation

### 1. Shop:

**<select an occasion>**

Drop-down list: this list contains all of the main occasions, e.g. gift, thank you, apology, get well soon, etc. plus at the top of the list the nearest flower holidays; Easter, Secretaries Day, and Mother's Day, for example.

Selecting an occasion from the list causes the available inventory for the selected occasion to be displayed in the main content frame, sorted by descending price.

### **<select a flower type>**

Drop-down list: similar to <select by occasion>, only the inventory is sorted by the type of flower selected. The most popular flowers should be listed first, and plants should be listed last.

5

### **Show Me**

Graphical Button: if the browser does not support the onChange() function, then the "Show Me" button submits the user's selection. If the user selects from both lists, show only the occasion. The Flower Type and Occasion lists are mutually exclusive.

## **2. Features**

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### **About Proflowers.com**

Graphical Button: links to the About Proflowers.com page; graphical button changes appearance to indicate the selection. OnMouseOver behavior may be implemented, if time allows.

### **Flower Guide**

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Graphical Button: links to the Flower Guide; see above.

### **Flower Care**

Graphical Button: links to Flower Care; see above.

### 3. Customer Service

**<select a service option>**

Drop-down list: presents a list of three options: View Order, Modify Billing, and Contact Proflowers. Selection of an item loads the appropriate page. See also comments for "Show Me".

### 4. Added Features

These items were separated from the main navigation to draw attention to these features.

#### **Reminder Service**

Graphical Button: links to Reminder Service; see above.

#### **Monthly Contest**

Graphical Button: links to Monthly Contest; see above.

## Logic

Shopping for flowers has two parts: locating the item and placing an order for it.

These two logic flows illustrate the general logic of the shopping and ordering process, followed by the appropriate screen shots (e.g., Figs. 11-12).

5 If the user selects an occasion from the Shop by Occasion menu (Fig. 13), the selected occasion loads. Arrangements appropriate for the selected occasion are listed in order of price, from largest to smallest. Behaviors are identical to the Home Page Behaviors.

It is not necessary to assign an ordinal value to each arrangement; numbers are included for illustration purposes only.

10 The Arrangement Detail screen (Fig. 14) allows the user to view each arrangement in more detail than the initial shop screen. This facilitates faster downloading by providing single larger images on a page rather than several. By saving the original image in its larger format, then reducing the size while in Catalog View, the load time for the detail view is significantly reduced as the image is already cached. Behaviors are identical to the Home  
15 Page Behaviors.

If the user has not yet completed an order during the active session, they are asked to identify themselves. The user has the option of entering an email address if they have shopped Proflowers.com previously, or leaving the field blank and clicking "Continue >>". If  
20 the system recognizes the user, it provides the Recipient Selection screen. Otherwise, an error and request for reentry appears.

## Behaviors

### Your Email Address:

Text Box: the user enters their email in the text box, or leaves it blank. If left blank, the site loads the Recipient Information Page (i.e., screen). The cursor should focus on this field automatically.

### Continue >>

Graphic Button: clicking continue submits the value of the text box and proceeds to the next screen; Enter or Return will also execute this command.

If the user enters an email address that is not recognized, they are presented with an opportunity to reenter their email address (Fig. 16). This is due to the fact that many users have several email addresses, and may have entered one different than the one used to place an order. Behaviors are identical to the Customer Identify Screen.

If the user is recognized as a previous user, either by the presence of a cookie or by the entry of a recognized email address, they are presented with a selectable list of recipients.

This list contains "New Recipient", the user's name, and the names of any other recipients from past orders. (See Fig. 17.)

**Note:** the browser must have entered Secure Mode at this point.

## Behaviors

### Select a Recipient

Drop down list: lists "New Recipient", the user's name, and the names of any previous recipients. JavaScript should be used to automatically detect the selection. The default value is "New Recipient".

### Continue >>

Graphical Button: if the selection is not automatically detected, then users may click this button to proceed; hitting Enter or Return will assume the default selection is desired.

If the user selected a recipient, the address fields are already populated with the appropriate information. If a recipient was not selected, the fields are left blank. The screen in Fig. 18 summarizes the order quantity, arrangement name, card message, and shipping information.

If there are any errors, the page reloads with the erroneous fields highlighted.

**Note:** if the browser is not yet in secure mode, it is now.

## Behaviors

The Tab key may be used to advance between fields; the focus should default to the quantity field.

### Quantity:

- 5 Text Box: user enters the quantity of arrangements they wish to send. The default value is 1.

### Card Message:

Text Boxes: five text boxes within the context of a graphic for the actual card; explanatory text indicating users should specify who it's from.

### 10 Please Ship To

The following standard form elements collect information about the Recipient of the arrangement. Fields marked with a (\*) are mandatory.

#### \* First Name:

Text Input: space for user to insert first name; the cursor should default to this field.

#### 15 \* Last Name:

Text Input: space for user to insert last name.

#### \* Address 1:

Text Input: space for user to insert the main address

#### Address 2:

- 20 Text Input: space for user to insert optional address information.



**\* City:**

Text Input: space for user to insert the city.

**\* State/Prov:**

Drop Down List: list for selecting state (format = AL, AZ, CA., etc...) Only those states, provinces and territories that can be shipped to are included. The country is implicit in the selection.

**\* Zip/Postal Code:**

Text Input: space for user to insert zip code; only allows 7 digits or whatever is allowable by virtue of the State or Province Selected.

**\* Delivery Date:**

Drop-down list: list of dates for shipping that extend four weeks from the present date.

Shipping values are listed next to each date, as to indicate the difference between weekend and weekday delivery. Additionally, important holidays and flower days are listed by name next to the appropriate date as to facilitate the selection of a moving holiday date (i.e. Mother's Day, Thanksgiving, etc.)

If it is possible, it might be desirable to list the actual holiday name *in lieu of* the actual date.

**Leave on doorstep:**

Check: if this option is checked, arrangements will be left if no one is available to receive them; this is checked by default. Explanatory text next to this option explains the possible problems associated with un-checking this option.

**Cancel Order:**

Graphical Button: discards information and activates Cancel Confirmed screen.

[illegible]

The Billing Information screen FIG. 19 collects the billing information from the user.

**Note:** Credit Card information should not be accessible from any portion of the site.

## Behaviors

### Billing Address

The following standard form elements collect billing information. Fields marked with a (\*) are mandatory.

#### \* First Name:

Text Input: space for user to insert first name; the cursor should default to this field.

#### \* Last Name:

Text Input: space for user to insert last name.

#### \* Address 1:

Text Input: space for user to insert the main address

#### Address 2:

Text Input: space for user to insert optional address information.

#### \* City:

Text Input: space for user to insert the city.

#### \* State/Prov:

Drop Down List: list for selecting state (format = AL, AZ, CA., etc...); should include an option "NONE" for international orders.

**\* Zip/Postal Code:**

Text Input: space for user to insert zip or postal code; country is implicit and determined by the value entered.

**\* Phone:**

5 Text Input: text field which allows enough space for international phone numbers.

**Billing Method:**

The following standard form elements collect information about the preferred billing method.

**\* Credit Card**

10 Drop-Down List: user may select from Visa, Mastercard, and Discover. The initial value of this list is "[select one]".

**\* Account Number:**

Text Input: space to enter card numbers; should be limited to 16 digits.

**\* Expiration (mm/yy):**

15 Text Input: space to enter expiration date. A suggested default value on "01/98" will indicate the format to enter the expiration date. An error routine should check for any date less than current month.

**Cancel Order**

20 Button: discards order information and returns user to order cancellation confirmation screen.

## **Continue >>**

Button: saves billing information and proceeds to the order summary; pressing Enter or Return executes this action as well.

Before confirming an order, the user has a chance in the screen in FIG. 20 to review the order and make any modifications.

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FIG. 20 is a screenshot of a computer screen displaying a web page with a form for entering billing information. The form includes fields for "Name", "Address", "City", "State", "Zip", "Phone", and "Email". There are "Save" and "Cancel" buttons at the bottom of the form. The "Save" button is highlighted with a red border. The "Cancel" button is also highlighted with a red border. The "Save" button is labeled "Save" and the "Cancel" button is labeled "Cancel".

## Behaviors

### Change:

Button: allows the user to edit the information for the selected section. Clicking “Change...” opens the edit screen for either billing or shipping; confirming the change returns the user immediately to this screen.

### Cancel this Order:

Graphical Button: opens the Cancel Order / Review Order screen to allow the verification of the cancellation.

### Confirm Order >>

Graphical Button: submits the order to the billing server and opens the “Order Confirmed” screen; pressing Enter or Return executes this action.

After confirming their order, the user is presented with a printable summary of their order in the screen in FIG. 22, which includes the order number. They may select “Done” or “Place Another Order”; both have the same effect of returning the user to the Main Screen (users seemed to need an explicit button for completing the task).

**Design Note:** Notice that the Done button has a soft, rounded appearance whereas the Place Another Order Button has a pointed end. This is to suggest Finished, in the former, as opposed to “Continue on with another action”, as in the latter; this convention is utilized throughout the design.

The screen in FIG. 23 should provide users with general information about Proflowers.com, such as details regarding the price, quality and freshness of the arrangements. It should also include links to the Customer Support page, in case users are looking for that type of information on this page. It is also a good opportunity to introduce links to the value added features and sections, like the Flower Care and Guide sections.

The screen in Fig. 24 provides a guide to caring for cut flowers. It should also include a link to the Flower Guide. Also, it should mention that this guide is included with every order.

The Flower Guide screen in FIG. 25 provides users with a simple guide to the types, appearances and meanings of different flowers. This also allows Proflowers.com demonstrate its special knowledge about flowers.

If any of the featured flowers are available for sale through Proflowers.com, an "In Stock" hypertext button should be included with the description. Clicking "In Stock" takes the user to the appropriate detailed view of the arrangement.

The most popular flower types, such as roses and tulips, should be featured first in the guide, along with a brief description of the meaning and seasonal availability. Users may reach this guide by clicking on the names of flowers within the arrangement descriptions.

When a user selects "View Order" screen (Fig. 27) from the Customer Service Menu, they get this screen. If the user wishes to view, edit or cancel an order, they may do so by entering their order number and clicking "Continue >>". The system will automatically poll FedEx with the number to generate the Order Status information, or at minimum provide them with an order status value.

**Note:** although not explicitly described in this document, this and all subsequent screens regarding order location should anticipate an entry error on the part of the user. Instead of providing an error screen instructing the user to go back, it should reload the same data fields but state that the order was not found and to re-enter it. This is similar to the "Customer Identification" screens.

## Behaviors

### Your Order Number:

Text Box: space for typing order number located on the Order Summary.

### Continue >>

5 Button: submits the order number and locates the order summary for that order.

Regarding Fig. 28, if the order number matches an order in the database, the details (including FedEx status) are displayed. If the order has not yet shipped, up to the day before intended shipping, the user may modify the information (see previous Order Summary for description of behaviors). Cancel Order takes the user to the Cancel Order Review screen.

10

**Note:** whitespace is used to help the delivery date and order status information stand out. These two pieces of information are very important, and should be made to stand apart from the other information on the page.

If the user selects "Cancel Order" from a screen (Fig. 29) containing a complete order summary, they are presented with this screen so they may review their order and verify their decision. Clicking "Don't Cancel Order" returns the user to the previous screen. Clicking "Cancel this Order" takes user to Order Cancel Confirmed Screen. The system should remove the order from the system at this point.

15

**Note:** any screen containing an order summary for an order that has already shipped will not contain a "Cancel Order" button.

20

Fig. 30 is a screen that confirms to user that the order has been canceled.

If the user wishes to modify the billing information, especially if an email was sent that a credit card was declined, they may do so from the screen in FIG. 40.



## Behaviors

### Your Order Number:

Text Box: space for typing order number located on the Order Summary.

### Continue >>

5 Button: submits the order number and locates the billing information for that order.

See description for Billing Information in ordering process. A continue screen in FIG. 41 updates the information and provides confirmation; Cancel loads the order summary for verification.

Confirmation that the billing information has been successfully updated in FIG. 42.

10 If users wish to contact Proflowers for any reason, they may complete the form in the screen of FIG. 43. Clicking "Cancel" returns user to the home page; clicking "Send Message" submits message and activates confirmation page.

After submitting a message, the user is presented with confirmation that their email was received in the screen illustrated in FIG. . Clicking "Done" returns the user to the home page.

15 A Reminder Service screen in FIG. 45 allows users to enter special dates with the expectation that they will receive a reminder and special offer when the date approaches. Entering an email address accesses the reminders. If the email is recognized, the saved reminders can be edited. Otherwise, the reminders are blank.

20 The user may enter special occasions and dates in on the screen in FIG. 46. To assist the user, the name of a holiday may be entered without a date. If, after submitting the reminder the string matches one in the database, the date is automatically applied. This is useful for holidays which have shifting dates, like Easter, Passover, Mother's Day, Thanksgiving, and so on.

25 The first time the reminders are accessed, it should include one or two examples for the user to view.

After submitting reminders, they are summarized for the user in a screen shown in FIG. 47 to show that they were accepted by the system. Any holidays in which dates were left blank will now be populated by the system (if matched).

The contents of the contest page for the screen in FIG. 48 are up to the discretion of the Proflowers.com design and marketing teams.

Confirmation that the contest entry was submitted successfully is shown in the screen of FIG. 49.

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## **technology issues**

### **Frame Technology**

Frames are compatible with all Mozilla/2.0 compatible browsers. Browser usage statistics from various Internet sources have indicated that the majority of users on the web are using a browser that is Mozilla/2.0 compliant. Therefore, ID is confident that the use of frames in the site will not hinder the vast majority of users that access the Proflowers site. These statistics include AOL users (see <http://webmaster.info.aol.com/> for more information on developing for AOL users).

### **JavaScript**

This design assumes the use of JavaScript to implement certain elements in the design. It has been determined that the JavaScript Event Handlers indicated in this document are compatible with all Mozilla/2.0 and greater browsers, which accounts for much greater than 80% of the existing Internet users. JavaScript is a highly flexible, object oriented language which is well suited to implementing certain user interactions not possible with HTML, with the added benefit of being more stable and compatible than Java.

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## design issues

### Thinking Outside the Box

There is more to this site than the pages it serves. There is an underlying structure which reinforces Proflowers intimate knowledge of their customers needs.

For example:

- Dates: whenever a date must be selected (i.e. for delivery), not only is the date indicated but the holiday associated with that date is displayed as well. Since many holidays occur on shifting dates, this will make selecting a delivery date easier for the user. If the date affects shipping, that should be clearly indicated as well.
- Email: any action performed by the user that affects their account should include on screen confirmation as well as email confirmation. Email requiring a user action should contain explicit instructions and even hypertext links to the actual screen they need to visit to resolve the issue.
- Packaging : graphic elements on the packaging, flower guide, card *etc.* should be consistent with the look and feel of the site to indicate coherence and unity within the company.

### Customer Service

Whenever a request is submitted to Proflowers.com, such as an order or service request, an automatic reply in the form of email should be generated stating that the message has been received by Proflowers. Any time an action regarding Proflowers and the customer occurs, and email should be generated if possible.

## **Browsing Inventory**

If the user opts to view an arrangement in more detail, they are offered the option to continue browsing the inventory in the detailed view "mode". Previous experience and observation has shown that users will predictably utilize the browser's "Back" button to return to the overview page from which they selected the Detailed view. Since the pages are generated based on the user's browsing preference, it may not be technically feasible to include a "<< Back" button on that actual "Details" screen. Additionally, the limited inventory does not indicate the need for a mechanism to allow browsing within the "Details" view.

Users stated an interest in the names of flowers included in the text descriptions of arrangements should link to the appropriate section of the Flower Guide for the flower selected.

## **Shopping Cart**

Task analysis indicates that ordering multiple items is less likely than ordering only one.

Therefore, multiple orders are facilitated by a "Place another order" button on the final ordering screen. Users are not required to re-enter data as long as they don't leave the site or the 15-minute limit has not passed.

## **Survey**

In order to gain valuable marketing information, Proflowers.com is interested in including a survey. The most appropriate point for this survey to appear is after a user has completed an order. This way the user will have a fresh impression of the ease of use and value of the site, since they have just completed using it. Proflowers.com should attempt to offer some incentive for completing the survey, since research shows that users are typically wary of offering this type of information. There is a perception that personal information will be disseminated against their wishes, so Proflowers.com should stress that the survey is merely intended to make their experience with Proflowers.com more pleasurable in the future by implementing their suggestions.

This survey could appear after the user clicks done, and be phrased as to indicate to the user that it is for the purposes of improving the site, and not for demographics/marketing reasons. Obviously, any demographic information collected should be carefully presented as to not contradict this statement.

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### **Reminder Service**

The reminder service allows a frequent user to specify certain special dates, such as birthdays and anniversaries. An email reminder and advertisement is sent to registered users, possibly with special offers for reminder service clients (i.e. free shipping, discount price, etc.) Users register for this service separately from the ordering process, but use their email address for identification.

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To draw attention to the reminder service, it has been displayed as an independent button with a graphic.

### **Strategic Alliances**

Proflowers may wish to partner with other resources to add value to the site, such as including a Blue Mountain greeting card or other gifts, as well as links to partner sites with product offerings within the same domain.

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### **Registry**

Certain individuals may wish to select a few items they like and send a note to their favorite gift giver a nice reminder to buy them flowers. Again, special discounts or offers could be provided to such users. Implementing this would follow the same heuristics as outlined in the Reminder Service, including having a separate button.

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With even more particular reference to how to make (and implicitly how to use) the present invention, please consult the code in the Appendix, which is incorporated herein, in view of the following representative specifications for ProFlowers.com.

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### **Notation**

<root> refers to the application directory root (e.g., f:\BMAO)

## Application Load

### Assumptions

	daily unique visitors (average / peak):	100,000 / 600,000
5	percentage of visitors placing order:	1%
	products per order:	1

### Design criteria based on assumptions

	daily orders (average / peak):	1,000 / 6,000
	daily faxes (average / peak):	1,000 / 6,000 pages
10	1 min. per fax page, 600 pages per day per channel	

## Order Processing Pipeline

**Tables:** FL\_orderFulfillment, FL\_orderFulfillmentStatus

FL\_orderFulfillmentStatus also defines the exact sequence of steps

#	Description	Program	Status <sup>1</sup>
1	new, temporary and incomplete order	\cfm\orderForm1.cfm CFMODULE Name = "BMAO.uniqueOrderID" (in Cold Fusion\CustomTags)	T
2	a. supplier selection b. FedEx shipment preparation <sup>5</sup> (VALIDATION-ONLY in case of delayed order; canceled in batch process batchFedExCancel.cfm)	\cfm\orderForm3.cfm <sup>2</sup> selectSupplier.inc FedEx.inc	FEX

3	credit card authorization	\cfm\orderForm3.cfm <sup>2</sup> CyberCash.inc	CCA
4	finish order process or prepare for future processing	\cfm\orderForm3.cfm <sup>2</sup>	PPR or PSN <sup>3</sup>
5	fax packing list/greeting message and FedEx waybill to supplier (multiple quantities result in multiple faxes)	\admin\batchNotifySupplier.cfm <sup>6</sup>	PSH
6	shipped	\admin\batchCheckShip.cfm	SHP
7	credit card captured	\admin\batchCaptureCC.cfm	CCC
8	credit card settled	\admin\batchSettleAuth.cfm <sup>4</sup> \admin\batchSettleRet.cfm	SET (temporary SER)
9	delete FedEx waybill labels	\admin\batchDelLabelFiles.cfm	COM
10	Administrative tasks: supplier paid	BackOffice, Fulfillment	SPD
11	Manual processing	Exception handling; immediately taken out of automated processing cycle	MAN

### Notes

1 status code as set after successful completion of stage;

set in table FL\_orderFulfillment. Valid status codes are:

**T** ... temporary order (order and associated table entries will be deleted nightly by SQL Server Stored Procedure pp\_deleteTempOrders;  
temporary customers are deleted by pp\_deleteTempCustomers)

**FEX** ... FedEx shipment prepared (incl. Label gif file in  
<root>\FedExLabels directory)

**CCA** ... credit card authorized

**PPR** ... pending processing (future orders to be batch processed at a future time)

**PSN** ... pending supplier notification (waiting for packing list/greeting message and FedEx waybill label to be faxed)

**PSH** ... pending shipment (packing list/greeting message and FedEx waybill label have been faxed to supplier)

**SHP** ... shipped (as determined by successful tracking of first package within order)

**CCC** ... credit card captured

**SER** ... settlement error (temporary status set by \admin\SettleAuth.inc and \admin\SettleRet.inc to identify order with status CCC so that they can be skipped during the next loop of settlement processing; reset to CCC by \admin\batchSettleAuth.cfm and \admin\batchSettleRet.cfm at the end of the program)

**SET** ... credit card settled

**COM** ... completed order (excluding administrative tasks, such as supplier payment)

**SPD** ... supplier paid (administrative task)

**ERR** ... error; typically, order is canceled and customer notified by email, if available

**MAN** ... manual processing (order is taken out of the automated processing loop; programs will not take any further action on this order)

**EDT** ... editing; temporary status code to indicate that the order is being edited by the user

**DEL** ... deleted by the customer from order tracking page; used for auditing purposes

Note, that manual status changes are only allowed after the order is in COM state.



- 2 Delayed/future orders are handled by  
\\admin\\batchOrderProcessing.cfm
- 3 PPR status set by \\cfm\\orderForm3.cfm for delayed  
orders; PSN is set by \\cfm\\orderForm3.cfm for next day orders and by  
\\admin\\batchOrderProcessing.cfm once the order is processed
- 4 batchSettleAuth.cfm settles authorized credit cards, i.e.,  
purchases (all orders with status 'CCC' in table FL\_orderFulfillment =  
'marked' in CyberCash database) ; batchSettleRet.cfm settles refunds  
(i.e., all orders with status 'MRE' in table FL\_returns = 'markret' in  
CyberCash database).
- 5 FedEx shipment preparation (except for VALIDATION-  
ONLY shipments) creates a label file in <root>\\FedExLabels\\<tracking  
number>.gif
- 6 \\admin\\batchNotifySupplier.cfm looks for the FedEx  
waybill label file \\FedExLabels\\<tracking number>.eps which has been  
converted by GIFtoEPS.bat and thus is dependent on GIFtoEPS.bat  
having run at some time; there is no direct scheduling dependence  
between the two. The program first sets the tokens in the packing  
list/greeting message template and then appends the associated waybill  
gif file.
- batchNotifySupplier.cfm also deletes <tracking number>.gif; <tracking  
number>.ps gets deleted by batchDelLabelFiles once status is SHP or  
CCC
- WHEN INTRODUCING NEW STATUS CODES, MAKE SURE TO ADD  
THEM TO TABLE FL\_orderFulfillmentStatus.

### Status Codes

The following status codes are used in the order processing pipeline:

TOP SECRET

Status Code	Description	Sequence
ERR	processing error	0
T	temporary	1
MAN	manual processing	2
EDT	editing	3
DEL	deleted by customer	4
FEX	FedEx shipment prepared	10
CCA	credit card authorized	20
PPR	pending processing	30
PSN	pending supplier notification	40
PSH	pending shipment	50
SHP	shipped	60
CCC	credit card captured	70
SET	settled	80
COM	completed	90
SPD	supplier paid	100
999	testing use only	

The sequence number is used to check for global status. For example, the order tracking program (OrderTracking.cfm) only shows orders with sequence > 20.

#### Returns/Refunds Processing Pipeline

**Table:** FL\_returns and FL\_returnsStatus

#	Description	Program	Status <sup>1</sup>
---	-------------	---------	---------------------

1	transaction marked for return/refund	\\admin\\orderRefund.cfm	MRE
2	transaction settled	\\admin\\batchSettleAuth.cfm	SET

### Notes

- 1 status code as set **after** successful completion of stage;  
set in table FL\_returns. Valid status codes are:
- MRE** ... marked for refund ('markret' in CyberCash database)
- SET** ... credit card settled

5

### Batch Processes and Scheduling

Time	Process	Description	Dependency
every 15 minutes on the quarter	<root>\\FedExLabels\\ GIFtoEPS.bat	converts FedEx waybill labels from GIF to EPS	none
every 15 min.; 2 min. after the quarter	<root>\\admin\\ batchNotifySupplier.cfm	postprocesses packing list and EPS label files (adds Postscript wrapper, scales to proper size, add "showpage")	none directly but needs EPS file; looks for EPS files of orders with status PSN
11:00 AM to 7:30 PM	<root>\\admin\\batchCheckDe livery.cfm	Determines whether an order has been delivered	none, but should be run during times when FedEx delivery is most likely



1:00 AM	<root>\admin\	processes all orders	none but must be
2:00 AM	batchOrderProcessing.cfm	due for delivery the	run past midnight
3:00 AM	(runs 3 times in case of	next day	since it looks for
4:00 AM	FedEx problems)		the next day and uses today's ship date
3:00 AM	<root>\admin\ batchSettleAuth.cfm	settles captured credit cards	none; should run after batchCaptureCC
3:30 AM	<root>\admin\ batchSettleRet.cfm	settles returns/refunds	none
12:05 AM	SP: pp_deleteTempOrders	deletes temporary orders (those that never were finished)	none
12:10 AM	SP: pp_deleteTempCustomers	deletes temporary customers (those that never placed an order)	none
10:00 PM	database dump	SQL Server dump of BMAO, Master and msdb databases	none
10:30 PM	tape backup	daily and weekly incremental and full backup	SQL Server database dump
5:00 PM	<root>\admin\AffiliateProduc	Create data transfer	Anytime, once a
Sunday	t.cfm	file for Be Free	week

#### Notes

- 1 it is recommended to run batchDelLabelFiles.cfm **before** batchSettleAuth.cfm because the latter sets the status that the former acts upon. This way, shipping labels stay around for another day – just in case they might be needed again.

## Special Access Permissions, Accounts and Drive Mappings

### File Permissions

#### Application Server (FLOWERS1)

The following files in \\FLOWERS1\\<root>\\admin require execute (X) permission for the IIS anonymous user (MIIS). This is because they are run as a batch process by the Cold Fusion scheduler which runs under the IIS anonymous account.

application.cfm

batch\*.cfm

\*.inc

<root>\\admin and the following files in <root>\\admin required execute (RX) permission for the group BMAOadmin:

\*.html

#### Master FAX Server (FLOWERS3)

Administrators group needs full control over directory C:\\ToBeFaxed. This way, \\FLOWERS3\\FAXWorkServer account and also \\FLOWERS1\\CFService (both part of Administrators group) have the necessary (RWD) (RWD) permissions on all deposited fax files. (batch process running on FLOWERS1 later deletes these files)

### Shares

\\FLOWERS3\\c:\\ToBeFaxed needs to be as ToBeFaxed so that application server (FLOWERS1) can deposit and later delete fax files. UNC mapping is done in <root>\\admin\\application.cfm with parameter FAXDirectory as \\FLOWERS3.proflowers.com\\ToBeFaxed. This parameter needs to be changed if the master fax server is moved to a different machine.

The Administrators group needs Change permission on share.

## Cold Fusion

The Cold Fusion service must run under an account other than the local system account. This is so that access permissions and shares on the drive attached to the fax master server (share ToBeFaxed, physical drive \\FLOWERS3\\c:\\ToBeFaxed) can be set appropriately.

The Cold Fusion service is setup to run under the CFService account. CFService must be part of the Administrators group.

## Master FAX Server (FLOWERS3)

All conversion services (WorkServer1, WorkServer2) must run under the FAXWorkServer account, which must be part of the Administrators group. This allows fax files to be picked up from the drive shared with FLOWERS1 (share name ToBeFaxed; physical drive \\FLOWERS3\\c:\\ToBeFaxed) and converted to fax format by one of the work servers.

## UPGRADE/MAINTENANCE NOTES

This section details any special considerations that must be taken when upgrading or maintaining any of the installed software components.

### Cold Fusion

Make sure that the Cold Fusion service runs under the local account CFService. This is necessary for Cold Fusion to be able to create files on share ToBeFaxed.

### IP Address Changes

If the address of any machine changes, DNS on FLOWERS3 needs to be updated accordingly. In addition, the following must be considered:

1. FLOWERS2, SMTP Server: change relay security options to allow mail relay from FLOWERS1
2. FLOWERS3, master fax server: make sure LCR table on FLOWERS3 reflects any IP address changes
3. FLOWERS4/FLOWERS5, slave fax servers: make sure LCR table on FLOWERS3 reflects any IP address changes
4. FLOWERS1: change Proflowers Web site IP address address (Microsoft Management Console, right-click on Proflowers site)
5. FLOWERS1: change SSL certificate IP address (Microsoft Management Console, right-click on Proflowers site, properties; directory security, key manager)

If IP address of DNS server changes, a DNS Server change request must be submitted to InterNIC at [www.internic.net](http://www.internic.net).



## FAX ARCHITECTURE

Refer to hand-drawn diagram

### Master FAX Server Failure

In case of a master FAX server failure (i.e., failure of FLOWERS3), the following steps should be followed in order to make FLOWERS4 a temporary master FAX server:

1. change parameter FAXDirectory on application server (FLOWERS1) in <root>\admin\application.cfm to point to \\FLOWERS4.proflowers.com\ToBeFaxed (make sure that Administrators group has Change permission on share ToBeFaxed and (RWD) (RWD) permission on directory/files). Make sure that FLOWERS4 has the RightFAX PostScript converter installed.
2. change FAXPrinter parameter in \\FLOWERS1\<root>\admin\application.cfm to \\FLOWERS4\PSFAX
3. if possible, increase the Internet bandwidth on FLOWERS4 to T-1 speed since files that need to be deposited on \\FLOWERS4\ToBeFaxed by FLOWERS1 for fax conversion are over 600 KB in size.

### Fax Database Corruption

In case of fax database corruption on master fax server (FLOWERS3), consult RightFAX Administration Guide, page 120, ff. If the database is non-recoverable, reinstall RightFAX with install option "install a blank database". In this case, new bump codes must be obtained from RightFAX Technical Support (click on RightFAX Server control panel applet on FLOWERS3).

If any of the control panel applets are missing, make sure the appropriate control panel dll's are available (e.g., \WINNT\SYSTEM32\work\_ctl.dll for the work servers)

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## SERVER TASKS

### FLOWERS1 – Web Server

#### Location

San Diego

#### DNS entries

flowers1.proflowers.com, www.proflowers.com, proflowers.com

secure.proflowers.com (for SSL -- Proflowers)

Service	Description
MS IIS 4.0	Microsoft Internet Information Server – Web Server, FTP Service
Cold Fusion Professional Application Server 3.1	Application logic and batch processing
SSL	Secure Socket Layer, VeriSign Certificate
Jasc Image Robot	GIF to EPS/Postscript conversion
Diskeeper	NTFS file de-fragmentation
McAfee Netshield	Virus scanning and protection
NT Resource Kit 4.0	Task scheduling
WinZip 6.1	File decompression
Farallon Timbuktu	Server remote control
Crystal Reports	Cold Fusion report generation
FedEx ShipAPI	Connection to FedEx

MS SMTP Service

SMTP mail relay (secondary/backup for FLOWERS2)

## FLOWERS2 – Database Server

### Location

San Diego

### DNS entries

flowers2.proflowers.com

fpt2.proflowers.com

epop.proflowers.com (for SMTP relay service)

Service	Description
MS SQL Server 6.5	Database service
MS SMTP Service	SMTP mail relay service
MS IIS 4.0	Microsoft Internet Information Server – Web Server (disabled – used for backup and remote configuration), FTP Service
CyberCash Payment and Admin Server	Real-time credit card processing
Adobe Acrobat Reader	Viewer to read CyberCash documentation
Diskeeper	NTFS file de-fragmentation
McAfee Netshield	Virus scanning and protection
WinZip 6.1	File decompression
Seagate/Arcada Backup Exec	Daily/weekly tape backup
Farallon Timbuktu	Server remote control

## FLOWERS3 – Master FAX Server

### Location

San Diego

### DNS entries

flowers3.proflowers.com

### Service

### Description

RightFAX Enterprise 5.x	fax service
RightFAX PostScript converter	PostScript conversion module
WinZip 6.1	File decompression
Diskeeper	NTFS file de-fragmentation
Farallon Timbuktu	Server remote control

## FLOWERS4 – Slave FAX Server

Also serves as fail-over for master FAX server.

### Location

San Diego

### DNS entries

flowers4.proflowers.com



## BACKUPS

The following files and directories need to be backed up on a regular basis:

Computer	Directory	Description	Schedule
FLOWERS1	F:\BMAO	Application files, FedEx labels	Daily
FLOWERS2	F:\SQLDevices\back up	SQL Server database dump	Daily, after 10:00 PM
FLOWERS2	C:\cybercash	CyberCash database, merchant configuration, logs, . . .	Daily
FLOWERS3	C:\NTBind\DNSData C:\WINNT\NAMED.B OOT	DNS files	Daily

### Rotation Schedule

Weekly full backup and daily incremental backup are scheduled for 10:30 PM. The weekly full backup runs on Monday night and erases the tape. Thus, a new tape should be inserted on Monday anytime between midnight and 10:00 PM.

The daily incremental backup runs every night and appends to the tape. Thus, any backup tape contains a full backup, augmented by six sets of daily incremental backups.

Note, that there is a heavy load on the servers during the nightly batch order processing, which starts at 1:00 a.m. During this time period, processing of other tasks should be minimized.

## MAINTENANCE TASKS

### FLOWERS1

Task	Detail	Schedule
Check Error Log	BackOffice	daily
Check batch processing logs	F:\bmao\log	daily
Correct batch settlement errors, if any	F:\bmao\log\ BatchSettle.html CyberCash admin from BackOffice	daily
Check NT Event Viewer	NT Control Panel	daily
Check Cold Fusion Mail and Server logs	C:\apps\cfusion\mail\log C:\apps\cfusion\log	weekly
Delete Cold Fusion logs	C:\apps\cfusion\mail\log C:\apps\cfusion\log	monthly

### FLOWERS2

Task	Detail	Schedule
Check NT Event Viewer	NT Control Panel	daily
Delete SQL Server maintenance reports	C:\MSSQL\log	monthly
Check/delete CyberCash logs	C:\CyberCash\logs	monthly
Export CyberCash orders	C:\CyberCash\export\BMAO use CyberCash administrator from BackOffice	monthly



## URL ACCESS TO APPLICATION

Product Directory: [www.proflowers.com](http://www.proflowers.com)

[proflowers.com](http://proflowers.com)

Optional referrer tracking: [www.proflowers.com/index.cfm?REF=<aaa>](http://www.proflowers.com/index.cfm?REF=<aaa>)

e.g.: [www.proflowers.com/index.cfm?REF=Yahoo](http://www.proflowers.com/index.cfm?REF=Yahoo)

(the ref variable <aaa> can be up to 20 characters

long --- letters, numbers, and "-" only, no spaces

unless they are in URL-encoded format (e.g.,

REF=Bernd+Lutz) – and is stored in the order table,

FL\_order as well as in FL\_clickThru)

Click-thru tracking:

[http://204.132.117.151:88/ss?click&ProFlowers&<wat  
ch\\_code>](http://204.132.117.151:88/ss?click&ProFlowers&<wat<br/>ch_code>)

e. g.,

[http://204.132.117.151:88/ss?click&ProFlowers&3517  
e5be](http://204.132.117.151:88/ss?click&ProFlowers&3517<br/>e5be)

Order Tracking: [www.proflowers.com/orderTracking.cfm](http://www.proflowers.com/orderTracking.cfm)

BackOffice: [www.proflowers.com/admin](http://www.proflowers.com/admin)

Email: [info@proflowers.com](mailto:info@proflowers.com)

## PRICE SENSITIVITY OF ORDER

A product price change issued from within the BackOffice has the following effect on the order process:

- 1                      any new order started after the price change will  
5                      immediately use the new price
- 2                      an order in progress will exhibit the following behavior:
  - the price stays the same throughout the order process, i.e., the old price is being used. However, if the customer waits for more than 20 minutes before pushing the 'Finish Order' button, the screen  
10                      automatically switches to the order edit form, which then reflects the new price. If no action is taken for an additional 20 minutes, the screen switches to the product directory.
  - while the price stays constant throughout a straight order process, it  
15                      always changes to the most current price if and when the order is modified (i.e., the 'Modify Order' button is pushed').

Note, that at all times, the price displayed in the order receipt and/or order confirmation screen is the actual price that the customer pays.

## Multiple Supplier Fax Machines

Fax machine numbers are entered through the BackOffice (Insert New Supplier or Work With Supplier). Up to four fax numbers are available to be  
20                      entered. The entry fields are sequential. The program counts, from left to right, the number of non-empty fax fields. It stops counting as soon as it finds an empty field. Thus, if fax fields one, two and four have entries, only the first two are accounted for. The program then sets field  
25                      NrOfFaxMachines in table FL\_supplier with the number of fax numbers (i.e., two in the case above).

During real-time order processing (cfm\orderform3.cfm) and batch order processing (admin\batchOrderProcessing.cfm), each of the available fax numbers is selected randomly (see cfm\notifySupplier.cfm).

### **Packing List/Greeting Message Template**

5           The template for the packing list and greeting card message is in file  
            <root>\misc\FAXTemplate.doc

            To edit the template, use WordPad (not MS Word since its PostScript output  
            is undesirable and Word '97 reformats the document such that it can no  
10           longer be read by WordPad). Make sure to set the document margins  
            correctly; the left margin must be at 1 inch.

            To generate the template that is used for PostScript conversion, i.e.,  
            substitution of the tokens with the actual order values, print the template  
            document on the Apple LaserWriter printer (which should be set to output to  
            file) to file <root>\misc\FAXTemplate.ps. Make sure to use a legal page  
15           size! If not possible, change page size in FAXTemplate.ps to Legal.

            The Cold Fusion custom tag CFX\_NotifySupplierPS converts the PostScript  
            template to actual content. CFX\_EPSPostProcess scales the associated  
            EPS graphic (i.e., FedEx waybill label), adds the necessary PostScript  
            codes, and appends it to the converted template file (see  
20           <root>\admin\batchNotifySupplier).

## CREDIT CARD PROCESSING

Credit cards are always verified for correct format. Real-time verification and processing is done through CyberCash for orders with next day delivery, i.e., those orders that are faxed immediately (actually, there is a delay of up to 15 minutes, depending on the schedule frequency of  
<root>\admin\batchNotifySupplier.cfm) to the appropriate supplier for fulfillment.

Delayed orders, i.e., any orders placed *after* the supplier cutoff time, are verified for proper credit card format only and then authorized during the nightly order batch processing run the night before delivery. This process has the following advantages:

1. Avoidance of duplicate authorizations and the associated bank fees.
2. Faster online processing performance (no connection to CyberCash).
3. Orders with expired bank authorization (this may happen as early as five days after the initial authorization, i.e., placement of order) would have to be re-authorized under a *different* order ID. Besides being confusing and becoming an order tracking nightmare, this would also result in additional bank charges.

### Storage of Credit Card Data

Credit card information, i.e., credit card number and expiration date, is only stored during the current user session and for up to 20 minutes of inactivity. The data is stored in session memory and not in the database.

For delayed orders, credit card information has to be available at the time of order processing (the night before delivery). Therefore, the necessary data

is stored in table FL\_tempCCData only until then and immediately deleted once the order has been processed.

FL-tempCCData

## SYSTEM OPERATIONS

The following tasks should be performed on a daily/weekly basis by trained operations personnel. These tasks do not include technical systems administration responsibilities, which are described elsewhere in this document.

All operational tasks are performed from within the BackOffice.

### Daily Tasks

**Processing Errors** – check for any batch processing or online/real-time errors that may have occurred during the night or during the (previous) day. Take appropriate action.

**Daily Logs** – review all current logs and take appropriate action

**Reports** – compare Audit Report data with what actually has been shipped by the growers

### Weekly Tasks

TBD

### Monthly Tasks

1. Remove previous month's log files (<root>\log)

### Click-thru tracking

Table FL\_clickThru keeps track of referral code, date, and time for each click-thru that is coded in the following format:

<http://www.proflowers.com/index.cfm?REF=<whatever+banner+code+you+want>>

e.g., <http://www.proflowers.com/index.cfm?REF=123Greetings-trycp>

Note, that the referral code will be truncated to the first 20 characters. no funny characters or spaces are allowed (unless the latter are coded in URL-encoded format, such as REF=Bernd+Lutz).

Note, that each time index.cfm is called with the referral code parameter, an associated click-thru entry is made in FL\_clickThru, even if this happens within the same user session. Alternative coding would be possible to only write a single click-thru entry within the same session.

## Product Maintenance

Product appearance and Web viewing ability is determined by three factors:

1. Product display sequence
2. Product association with occasion and flower type
3. Product inventory

#1 and #2 above are set within the product insert or edit pages, while #3 is accomplished with the Inventory feature. **A product with a display sequence number of 255 is non-viewable by the Web user.** The only exception to this rule is for the two products with the lowest display sequence number. These two products always show up on the home page.

Only products with inventory assigned to them can be ordered.

All the steps outlined below are administered from the BackOffice.

## Adding a New Product

1. Insert new product – make sure to associate product with at least one occasion and/or flower type. The product display sequence number determines the relative display sequence, i.e., a product with a sequence number of 10 will be displayed before a product with sequence number

20.

Assign a picture file for the detail/full picture and one for the thumbnail view. Except for the top two products (in terms of display sequence), there will not be a broken picture link if there is no picture available; the (non-existing) picture will simply be ignored. However, if the product happens to be among the top two display products, a broken picture link will appear on the home page if there is no thumbnail picture.

**A product with a display sequence number of 255 is non-viewable by the Web user.**

2. Add inventory for product (Inventory feature) – unless the product is in the inventory of at least one supplier, it can not be ordered (a message indicating no current inventory will be displayed to the Web user).

### **Removing a Product**

Work with Product – edit the product and remove all associations with occasion or flower type. Unless the product happens to be among the top two displayed products, it will not be visible to the Web user.

To permanently remove a product, delete it. In this case, the associated inventory should be deleted as well. Make sure to check whether there are future orders for the product before deleting it or else the delayed order batch process will cancel the order and notify the customer via email of non-existing inventory.

### **Setting the Display Sequence of a Product**

Whenever there is more than one product in the set of products to be displayed (e.g., show all roses), the order by which each product is displayed is determined by its relative display sequence. For example, a product with display sequence of 10 will be positioned ahead of one with sequence 20. For identical numbers, random positioning takes place.

To view the exact position of each product, goto "Work With Product". The



5

product list is shown in order of display sequence. Note, that while the top two products always appear on the home page, regardless of whether they have any flowertype or occasion associations and irrespective of their absolute display sequence number, a product can only be viewed by the Web user if its display sequence is less than 255. A product with a display sequence number of 255 is non-viewable by the Web user. Products that are non-viewable are marked by a red asterisk.

### **Data Maintenance**

10

To ensure proper operations of certain features, it is important to accurately maintain associated data. Details are described below. All tasks are administered from the BackOffice.

### **Occasion**

These are the occasions listed in the pull-downs on the Web navigation bar. They are also listed in BackOffice product insertion and editing.

15

### **Flower Type**

These are the flower types listed in the pull-downs on the Web navigation bar. They are also listed in BackOffice product insertion and editing.

### **Holiday**

20

Holidays (e.g., Valentine's Day, Mother's Day) must accurately reflect the month and day of their next appearance.

Data is used by Reminder Service.

## **Problem Type**

Customers contacting Proflowers via the customer service form-driven contact feature will be presented with a list of these problem types.

Data is used in customer service contact form.

## **Ship Charge**

These are the shipping charges on a state-by-state basis. The program calculates shipping charges from this data for each destination state.

## **Surcharge**

Surcharges such as Saturday delivery are calculated from this data.

Turning now to Figure 42 there is shown an illustration of a representative courier shipping label including an ornamental graphic design, namely, a heart. The idea is that while couriers may have used some ornamentation in having their own hard-copy labels printed, e.g., the use of the colors and corporate logos on printed waybills, such printing has not been generated at the computer of a shipper and/or under the selection and/or control of one other than the courier. The same can be said for greeting cards—these may have been the domain of those who compose them as a product in themselves, in contrast to being generated by those engaged in a particular shipment. Similarly, packing lists have not been known as the subject of much by way of ornamentation.

Under the present invention, the printer device of whoever is doing the shipping is a key feature, e.g., the printer 50 or a printer at the Consumer Ordering System 2, if that be the system carrying out the particular shipment at issue. One option is for the courier to communicate the graphical ornamentation when communicating the digital signals for the shipping label (the name and address of the sender, recipient, etc.) from the Courier Shipping System 41 to whoever will be generating the hard copy shipping label and who will also be doing a shipment pursuant to the shipping label. For example, by utilizing such software as the popular FedEx (Federal Express) Ship software or the like at a printer device remote from the Courier Shipping System 41, e.g., any user's / shipper's computer ordering a

shipment or a distribution center carrying out such a shipment, the remotely generated shipping label can be given a decorated appearance. Color printing signals may also be employed where the local printer generating the label is a color printer. Optionally, such code can be operated or controlled at any or all of the following: Consumer Ordering System 2,  
5 Order Center System 26, Financial Institution System 33, Courier Shipping System 41, and/or a computer (not shown in Fig. 1) connected to the printer 50 at the Distribution Center System 51 in Fig. 1. Whichever computer system(s) is(are) at issue, the graphical element can be added to the greeting card, packing list, or courier label, or any combination thereof, and preferably on the sheet 57 for separation into respective pieces as discussed above.

10               Such a graphic design can be generated by computer running such code as that set forth below.

---

```
'See if we need to print any holiday graphics
pdteDDate = Data("DeliveryDate") & vbNullString
15 'Valentines Day graphics
If Month(pdteDDate) = 2 And Day(pdteDDate) = 14 Then
.DrawPicture LoadResPicture(4003, vbResBitmap), 4000, 6650
'mapIPrintLocs(PL_HOLIDAY).Left, mapIPrintLocs(PL_HOLIDAY).Top
Elseif Month(pdteDDate) = 5 And Weekday(pdteDDate) = vbSaturday Then
20 'Check for Mothers Day
If Day(pdteDDate) > 6 And Day(pdteDDate) < 14 Then
.DrawPicture LoadResPicture(4002, vbResBitmap), 4000, 6650
'mapIPrintLocs(PL_HOLIDAY).Left, mapIPrintLocs(PL_HOLIDAY).Top
End If
25 Elseif Month(pdteDDate) = 12 And Day(pdteDDate) = 24 Then
'Christmas Graphic
.DrawPicture LoadResPicture(4005, vbResBitmap), 4000, 6650 '
mapIPrintLocs(PL_HOLIDAY).Left, mapIPrintLocs(PL_HOLIDAY).Top
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30       This code can be located in the pfPrint project in VSS (see, e.g., Appendix of Ser. No. 09/149,650, incorporated by reference).

In such an embodiment, the invention can be considered as a method for generating an ornamental design on a courier shipping label at a non-courier printer in connection with printing the label for a particular shipment specified on the label, the method including the steps of: assigning shipping information signals corresponding to a shipping label for a particular shipment with a digital electrical computer shipping apparatus; transmitting the shipping information signals corresponding to the shipping label for the particular shipment to a non-courier printer device; combining the shipping information signals corresponding to the shipping label for the particular shipment with signals corresponding to an ornamental design; and printing the shipping label for the particular shipment at the non-courier printer device including an ornamental design.

In any of the foregoing, the method can be carried out so that the ornamental design includes a heart, a wreath, or another holiday symbol, and even a first design that includes a second design, wherein the designs may or may not be printed in color, as may be desired. Preferably the ornamental design is a bit map, not including a logo, shipment, or courier information. The method can further include the step of controlling addition of the design to the shipping label at an ordering system computer, at an ordering center system computer, at a financial institution system computer, and/or at a distribution center system.

Indeed, the invention encompasses generating an ornamental design on a sheet including a member from a group consisting of a courier shipping label, a greeting card, and a packing list, the member printed at a shipper printer device in connection with a particular shipment, the method including the steps of: assigning digital electrical signals corresponding to a member of the group for a particular shipment; transmitting the digital electrical signals corresponding to the member of the group for the particular shipment to a shipper printer device; combining the digital electrical signals corresponding to the member of the group for the particular shipment with signals corresponding to an ornamental design; and printing the member of the group, including the ornamental design, for the particular shipment at the shipper printer device.

Another way of viewing the invention is as method for generating an ornamental design on a sheet including a member from a group consisting of a courier shipping label, a greeting card, and a packing list, the member printed at a shipper printer

device in connection with a particular shipment including at least two members of the group, the method including the steps of: assigning digital electrical signals corresponding to a member of the group for a particular shipment; transmitting the digital electrical signals corresponding to the member of the group for the particular shipment to a shipper printer device; combining the digital electrical signals corresponding to the member of the group for the particular shipment with signals corresponding to an ornamental design; and printing the member of the group, including the ornamental design, for the particular shipment at the shipper printer device. Preferably, at least two members are printed on the same sheet, and better still, all the members are printed on the same sheet. Also preferable is to have a step of combining ornamental design signals with signals for printing another member of the group, if not each member of the group, and depending upon the embodiment at issue, to have the design be the same on whatever of the members are at issue.

Turning now to Figure 43, there is an illustration of representative printing the graphical element, including for a greeting card, for a packing list, and for a courier shipping label including respective ornamental graphic designs. In Figure 43, the designs include a Christmas wreath, a heart, and a heart with the word "MOM" written therein, e.g., a first design with a second design therein. Any such holiday graphical element can be selectable at the above-referenced computers for graphic ornamentation of a greeting message, courier label, packing list, and/or the like that is computer-generated preferably at a shipper's location (such as a distribution center), e.g., by using shipping label data assigned by/from a carrier computer. On the shipping label, such bit maps can utilize areas on the sheet that are not utilized for scanning shipping data. Said graphical designs are distinct from information used for the shipment, billing, identification of parties involved, etc., and the purpose is not functional as regards the shipment. For example, the particular kind of flowers can be used as the design wherever on the sheet as may be desired, or the contents of the box can also be illustrated with the graphical element or design. Therefore, there can be more than an ornamental utility in utilizing such designs as customizable elements or messages--the designs and/or their location can assist in sorting the shipments or packages, e.g., so that personal Valentine's Day gifts can be conveniently sorted from business communications, items such as fresh food that requires refrigeration can be illustrated distinct from items that

do not require refrigeration, etc.

## VII. CONCLUSION

While a particular embodiment of the present invention has been disclosed with a preferred application to flowers, it is to be understood that various different applications and modifications are possible and are within the true spirit of the invention, the scope of which is to be determined with reference to the claims set forth below. Of course, the invention can be carried out by using multiple computers or by using the same computer to handle operations sequentially, as would be equivalent under the circumstances--software embodiments being equivalent to hardwired embodiments, as is well known in the art. There is no intention, therefore, to limit the invention to the exact disclosure presented herein as a teaching of one embodiment of the invention.